COLORADO DISCHARGE PERMIT SYSTEM (CDPS)
FACT SHEET FOR PERMIT NUMBER CO0000005
LOWER FOUNTAIN METROPOLITAN SEWAGE DISPOSAL DISTRICT,
HAROLD D. THOMPSON REGIONAL WASTEWATER RECLAMATION FACILITY (HDTRWRF),
EL PASO COUNTY

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I. TYPE OF PERMIT

A. Permit Type: Domestic- Major Municipal, Mechanical Plant, New

B. Discharge To: Surface Water

II. FACILITY INFORMATION

A. SIC Code: 4952 Sewerage Systems

B. Facility Classification: Class B per Section 100.5.2 of the Water and Wastewater Facility Operator Certification Requirements

C. Facility Location: NE ¼ of the NE ¼ of S33 and NW ¼ of the NW ¼ of S34, T16S, R65W, 6th Principal Meridian; 14621 Lower Fountain Heights in Fountain, CO 80817; at 38° 37’ 8.4” latitude N and 104° 39’ 50.4” longitude W

D. Permitted Feature: 001A, following UV disinfection and prior to entering the unnamed tributary to Fountain Creek; at 38°37’00” Latitude North and 104°39’46” Longitude West.

The location provided above will serve as the point of compliance for this permit and are appropriate as they are located after all treatment and prior to discharge to the receiving water.

E. Facility Flows: 2.5 MGD

F. Major Changes From Last Renewal:

This is a new permit, and therefore there are no changes to discuss.

III. RECEIVING STREAM

A. Waterbody Identification:

COARFO04, an unnamed tributary to Fountain Creek and COARFO02a, the mainstem of Fountain Creek.

B. Water Quality Assessment:

An assessment of the stream standards, low flow data, and ambient stream data has been performed to determine the assimilative capacities for *the unnamed tributary to Fountain Creek* and for *Fountain Creek* for potential pollutants of concern. This information, which is contained in Appendix A (Preliminary Effluent Limitations or PEL #200285) of this Fact Sheet for these receiving streams, also includes an antidegradation review, where appropriate. The Division's Permits Section has reviewed the assimilative capacities to determine the appropriate water quality-based effluent limitations as well as potential limits based on the antidegradation evaluation, where applicable. The limitations based on the assessment and other evaluations conducted as part of this fact sheet can be found in Part I.A of the permit.

Outfall 001A will be the authorized discharge point to the receiving stream.

IV. FACILITY DESCRIPTION

A. Infiltration/Inflow (I/I)

No infiltration/inflow problems have been documented in the service area at this time.

B. Lift Stations

There are no lift stations in the service area.

C. Chemical Usage

The permittee stated in the application that they may utilize one chemical in their treatment process. Sodium hypochlorite will be stored on site, and would be utilized by the operators for activated sludge process control. It is not expected to be present in the effluent due to the chlorine demand of the activated sludge. The MSDS sheets have been reviewed and the following chemicals have been approved for use and are summarized in the following table.

Table IV-2 – Chemical Additives

Chemical Name	Purpose	Constituents of Concern
Sodium hypochlorite (NaClO)	*Disinfection*	*Chlorine*

Chemicals deemed acceptable for use in waters that will or may be discharged to waters of the State are acceptable only when used in accordance with all state and federal regulations, and in strict accordance with the manufacturer's site-specific instructions.

D. Treatment Facility, Facility Modifications and Capacities

HDTRWRF consists of an extended activated sludge operation and disinfection via ultra-violet radiation. This is a new facility and the permittee has not performed any construction at this facility that would change the hydraulic capacity of 2.5 MGD or the organic capacity of 9744 lbs BOD_5/day, which were specified in Site Approval #5066. That document should be referred to for any additional information.

Pursuant to Section 100.5.2 of the Water and Wastewater Facility Operator Certification Requirements, this facility will require a Class B certified operator.

E. Biosolids Treatment and Disposal

Biosolids are treated in an aerobic digester and dewatered with belt filter press equipment to achieve Class B pathogen reduction standards suitable for beneficial application to agricultural lands and/or reclamation of disturbed lands. If application sites are not available, biosolids will be hauled to a landfill for disposal.

EPA General Permit

EPA Region 8 issued a General Permit (effective October 19, 2007) for Colorado facilities whose operations generate, treat, and/or use/dispose of sewage sludge by means of land application, landfill, and surface disposal under the National Pollutant Discharge Elimination System. All Colorado facilities are required to apply for and to obtain coverage under the EPA General Permit.

2. Biosolids Regulation (Regulation No. 64, Colorado Water Quality Control Commission)
While the EPA is now the issuing agency for biosolids permits, Colorado facilities that land apply biosolids must comply with requirements of Regulation No. 64, such as the submission of annual reports as discussed later in this rationale.

V. PERFORMANCE HISTORY

A. Monitoring Data

1. Discharge Monitoring Reports –This is a new facility, thus no monitoring data is available.

B. Compliance With Terms and Conditions of Previous Permit

1. Effluent Limitations – This is a new facility, thus no assessment has been made.

VI. DISCUSSION OF EFFLUENT LIMITATIONS

A. Regulatory Basis for Limitations

1. Technology Based Limitations

   a. Federal Effluent Limitation Guidelines – The Federal Effluent Limitation Guidelines for domestic wastewater treatment facilities are the secondary treatment standards. These standards have been adopted into, and are applied out of, Regulation 62, the Regulations for Effluent Limitations.

   b. Regulation 62: Regulations for Effluent Limitations – These Regulations include effluent limitations that apply to all discharges of wastewater to State waters and are shown in Section VIII of the PEL. These regulations are applicable to the discharge from the HDTRWRF.

2. Numeric Water Quality Standards - PEL #200285 contains the evaluation of pollutants limited by

water quality standards. The mass balance equation shown in Section IV of the PEL was used for most pollutants to calculate the potential water quality based effluent limitations (WQBELs), M_2, that could be discharged without causing the water quality standard to be violated. For ammonia, the AMMTOX Model was used to determine the maximum assimilative capacity of the receiving stream. A detailed discussion of the calculations for the maximum allowable concentrations for the relevant parameters of concern is provided in Section IV of the PEL developed for this permitting action. A verification of the PEL limitations was conducted as part of the permitting action. No substantial changes that would modify applicable permit limitations were found.

The maximum allowable pollutant concentrations determined as part of these calculations represent the calculated effluent limits that would be protective of water quality. These are also known as the water quality-based effluent limits (WQBELs). Both acute and chronic WQBELs may be calculated based on acute and chronic standards, and these may be applied as daily maximum (acute) or 30-day average (chronic) limits.

3. Narrative Water Quality Standards - Section 31.11(1)(a)(iv) of The Basic Standards and Methodologies for Surface Waters (Regulation No. 31) includes the narrative standard that State surface waters shall be free of substances that are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life.

   a. Whole Effluent Toxicity - The Water Quality Control Division has established the use of WET testing as a method for identifying and controlling toxic discharges from wastewater treatment facilities. WET testing is being utilized as a means to ensure that there are no discharges of pollutants "in amounts, concentrations or combinations which are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life" as required by Section 31.11 (1) of the Basic Standards and Methodologies for Surface Waters. The requirements for WET testing are being implemented in accordance with Division policy, Implementation of the Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (Sept 30, 2010). Note that this policy has recently been updated and the permittee should refer to this document for additional information regarding WET.

4. Water Quality Regulations, Policies, and Guidance Documents

   a. Antidegradation – The receiving water (COARFO04- an unnamed tributary to Fountain Creek) is designated Use-Protected and so the antidegradation requirements have been met for this segment. However, the Division is including segment COARFO02a (Fountain Creek) in this permit as a receiving stream. Since this segment is designated Reviewable, an antidegradation evaluation is required pursuant to Section 31.8 of The Basic Standards and Methodologies for Surface Water. As set forth in Section V of the PEL, an antidegradation evaluation was conducted for pollutants when water quality impacts occurred and when the impacts were significant. Based on the antidegradation requirements and the reasonable potential analysis discussed below, antidegradation-based average concentrations (ADBACs) may be applied.

   According to Division procedures, the facility has three options related to antidegradation-based effluent limits: (1) the facility may accept ADBACs as permit limits (see Section V of the PEL); (2) the facility may select permit limits based on their non-impact limit (NIL), which would result in the facility not being subject to an antidegradation review and thus the antidegradation-based average concentrations would not apply (the NILs are also contained in Section V of the PEL); or (3) the facility may complete an alternatives analysis as set forth in Section 31.8(3)(d) of the regulations which would result in alternative antidegradation-based effluent limitations.

The effluent must not cause or contribute to an exceedance of a water quality standard and therefore the WQBEL must be selected if it is lower than the NIL. Where the WQBEL is not the most restrictive, the discharger may choose between the NIL or the ADBAC: the NIL results in no increased water quality impact; the ADBAC results in an "insignificant" increase in water quality impact. The ADBAC limits are imposed as two-year average limits.

b. Antibacksliding – The receiving water (COARFO04- an unnamed tributary to Fountain Creek) is designated Use-Protected and so the antibacksliding requirements in Regulation 61.10 have been met for this segment. However, the Division is including segment COARFO02a (Fountain Creek) in this permit as a receiving stream. This segment is designated Reviewable, and the Division has performed an antidegradation evaluation. In accordance with the Antidegradation Guidance, the antibacksliding requirements in Regulation 61.10 have been met.

c. Determination of Total Maximum Daily Loads (TMDLs) –The receiving stream to which the HDTRWRF discharges is currently listed on the State's 303(d) list for development of TMDLs for *E. coli*. However, the TMDL has not yet been finalized. Consistent with Division practice, this permit establishes monitoring requirements for these pollutants until such time as the TMDLs is complete and waste load allocations have been determined. The permit may be reopened to include limitations based upon a finalized TMDL.

d. Colorado Mixing Zone Regulations – Pursuant to section 31.10 of The Basic Standards and Methodologies for Surface Water, a mixing zone determination is required for this permitting action. The Colorado Mixing Zone Implementation Guidance, dated April 2002, identifies the process for determining the meaningful limit on the area impacted by a discharge to surface water where standards may be exceeded (i.e., regulatory mixing zone). This guidance document provides for certain exclusions from further analysis under the regulation, based on site-specific conditions.

The guidance document provides a mandatory, stepwise decision-making process for determining if the permit limits will not be affected by this regulation. Exclusion, based on Extreme Mixing Ratios, may be granted if the ratio of the facility design flow to the chronic low flow (30E3) is greater than 2:1. Since the ratio of the design flow to the chronic low flow is 1:0 the permittee is eligible for an exclusion from further analysis under the regulation.

e. Regulations for Nutrient Management- Regulation No. 85, the Regulation for Nutrients Management Control Limitations, includes effluent limitations that apply to all domestic wastewater discharges to State waters, with the exception of facilities that discharge 1 million gallons per day or less or any domestic facility owned by a disadvantaged community. These regulations also apply to non-domestic wastewater for industries in the Standard Industrial Class 'Major Group 20,' and any other non-domestic wastewater where the facility is expected, without treatment, to discharge total inorganic nitrogen or total phosphorus concentrations in excess of the numeric limits listed in 85.5 (1)(iii). The facility must investigate whether further considerations apply.

Regulation No. 85, the new Nutrients Management Control Regulation, includes technology based effluent limitations for total nitrogen and total phosphorus that do currently, or will in the

future, apply to many domestic wastewater discharges to State waters. These effluent limits for dischargers are to start being implemented in permitting actions as of July 1, 2013.

Since this permit action will be in place after that date, total nitrogen and total phosphorus effluent limitations potentially imposed because of this regulation must be considered. However, there are direct exemptions from these limitations for domestic facilities that discharge less than 1 million gallons per day (MGD), or are a domestic facility owned by a disadvantaged community. Delayed implementation (until 5/31/2022) is also specified in Reg. 85 to occur for domestic WWTFs that discharge 1 MGD or more, and less than 2.0 MGD, have an existing watershed control regulations (like 71-74), or where the discharge is to waters in a low-priority 8-digit HUC. For all other larger domestic WWTFs, the limitations will apply, unless other considerations allowed by Regulation No. 85.5(3) are utilized to show compliance with exceptions or variances to these nutrient effluent limitations.

Reg. 85 also requires that monitoring for nutrients in effluent and streams take place, independent of what nutrient effluent limits may be established in the permit. This nutrient monitoring is not currently required by this permit, but is required by the Reg. 85 control regulation. Monitoring for the Reg. 85 control regulation is currently required to be reported to the WQCD Environmental Data Unit.

f. Reasonable Potential Analysis – This is a new facility with no discharge data to compare maximum expected pollutant concentrations (MEPC) to maximum allowed pollutant concentrations (MAPC) for parameters of concern, therefore no RP analysis will be conducted at this time. Since this is a new facility which was designed to meet the limitations provided in the PEL document, it is anticipated that all limitations will be met.

B. Parameter Evaluation

BOD_5 - The BOD_5 concentrations in Reg 62 are the most stringent effluent limits and are therefore applied. The removal percentages for BOD_5 also apply based on the Regulations for Effluent Limitations.

Total Suspended Solids - The TSS concentrations in Reg 62 are the most stringent effluent limits and are therefore applied and are imposed upon the effective date of this permit.

Oil and Grease –The oil and grease limitations from the Regulations for Effluent Limitations are applied as they are the most stringent limitations.

pH- This parameter is limited by the water quality standards of 6.5-9.0 s.u., as this range is more stringent than other applicable standards.

E. coli –The limitation for *E. coli* is based upon the WQBEL and ADBAC as described in the PEL. A qualitative determination of RP has been made as the treatment facility has been designed to treat specifically for this parameter, and this limitation will apply immediately.

Total Residual Chlorine (TRC) - The concentration limit from Regulation 62, Regulation for Effluent Limitations is the most stringent effluent limit and will apply immediately.

Ammonia- The limitation for ammonia is based upon the WQBEL and ADBAC as described in the PEL. A qualitative determination of RP has been made as the treatment facility has been designed to treat specifically for this parameter. Therefore, limits will apply immediately.

Metals- For most metals, WQBEL and ADBAC limitations apply as described in the PEL. Exceptions include dissolved arsenic, total recoverable iron, and dissolved selenium for which only the WQBEL limitations apply.

Cyanide- The limitation for cyanide is based on the WQBEL and ADBAC as described in the PEL.

Temperature- Based on the information presented in the PEL, this facility is exempt from the temperature requirements because the 7E3 low flow is 0, so the discharge is to an effluent dependent (ephemeral stream without the presence of wastewater) water, therefore in accordance with Regulation 31.14(14), no temperature limitations are required..

Organics – The organic chemical, nonylphenol, is reasonably expected to be present in the effluent from municipal wastewater treatment facilities. A qualitative determination of RP has been made as this facility is a major municipal wastewater treatment facility. Monitoring of nonylphenol has been included in the permit, beginning one year from the effective date of this permit. The delayed effective date allows time for the permittee to develop a site-specific PQL, if deemed necessary.

Whole Effluent Toxicity (WET) Testing – HDTRWRF is a major domestic wastewater treatment facility and does have the potential for additional parameters to be present in the effluent that are not adequately controlled by chemical specific effluent limits. For this facility, chronic WET testing has been determined to be applicable based on the instream waste concentrations calculated below.

1. In-Stream Waste Concentration (IWC) – Where monitoring or limitations for WET are deemed appropriate by the Division, the chronic in-stream dilution is critical in determining whether acute or chronic conditions shall apply. In accordance with Division policy, for those discharges where the chronic IWC is greater than 9.1% and the receiving stream has a Class 1 Aquatic Life use or Class 2 Aquatic Life use with all of the appropriate aquatic life numeric standards, chronic conditions will normally apply. Where the chronic IWC is less than or equal to 9.1, or the stream is not classified as described above, acute conditions will normally apply. The chronic IWC is determined using the following equation:

IWC = [Facility Flow (FF)/(Stream Chronic Low Flow (annual) + FF)] X 100%

The flows and corresponding IWC for the appropriate discharge point are:

Permitted Feature	Chronic Low Flow, 30E3 (cfs)	Facility Design Flow (cfs)	IWC, (%)
001A	0	3.9	100

The IWC for this permit is 100 %, which represents a wastewater concentration of 100 % effluent to the unnamed tributary to Fountain Creek, the receiving stream.

2. General Information- The permittee should read the WET testing section of Part I of the permit carefully, as this information has been updated in accordance with the Division's updated policy, Implementation of the Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (Sept 30, 2010) . The permit outlines the test requirements and the required follow-up actions the permittee must take to resolve a toxicity incident. The permittee should also read the

above mentioned policy which is available on the Permit Section website. The permittee should be aware that some of the conditions outlined above may be subject to change if the facility experiences a change in discharge, as outlined in Part II.A.2. of the permit. Such changes shall be reported to the Division immediately.

C. Parameter Speciation

For standards based upon the total and total recoverable methods of analysis, the limitations are based upon the same method as the standard (except for arsenic).

For total recoverable arsenic, the analysis may be performed using a graphite furnace, however, this method may produce erroneous results and may not be available to the permittee. Therefore, the total method of analysis will be specified instead of the total recoverable method.

Total Mercury

Until recently there has not been an effective method for monitoring low-level total mercury concentrations in either the receiving stream or the facility effluent. To ensure that adequate data are gathered to determine reasonable potential and consistent with Division initiatives for mercury, quarterly effluent monitoring for total mercury at low-level detection methods will be required by the permit.

For metals with aquatic life-based dissolved standards, effluent limits and monitoring requirements are typically based upon the potentially dissolved method of analysis, as required under Regulation 31, Basic Standards and Methodologies for Surface Water. Thus, effluent limits and/or monitoring requirements for these metals will be prescribed as the "potentially dissolved" form.

For cyanide, the acute standard is in the form of "free" cyanide concentrations. However, there is no analytical procedure for measuring the concentration of free cyanide in a complex effluent. Therefore, ASTM (American Society for Testing and Materials) analytical procedure D2036-81, Method C, will be used to measure weak acid dissociable cyanide in the effluent. This analytical procedure will detect free cyanide plus those forms of complex cyanide that are most readily converted to free cyanide.

For total recoverable trivalent chromium, the regulations indicate that standard applies to the total of both the trivalent and hexavalent forms. Therefore, monitoring for total recoverable chromium will be required.

For hexavalent chromium, samples must be unacidified. Accordingly, dissolved concentrations will be measured rather than potentially dissolved concentrations.

VII. ADDITIONAL TERMS AND CONDITIONS

A. Monitoring

Effluent Monitoring – Effluent monitoring will be required as shown in the permit document. Refer to the permit for locations of monitoring points. Monitoring requirements have been established in accordance with the frequencies and sample types set forth in the Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Industrial and Domestic Wastewater Treatment Facilities. This policy includes the methods for reduced monitoring frequencies based upon facility compliance as well as for considerations given in exchange for instream monitoring programs initiated by the permitee. The permitee is not eligible for reduced monitoring frequencies at this time, as this is a new permit with no effluent data to base decisions on.

The quarterly monitoring frequency for mercury is imposed consistent with the Divisions' recent

initiative to include quarterly monitoring for mercury because of the changes in analytical procedure that will allow total mercury to be quantified at much lower concentrations.

B. Reporting

1. Discharge Monitoring Report – The HDTRWRF facility must submit Discharge Monitoring Reports (DMRs) on a monthly basis to the Division. These reports should contain the required summarization of the test results for all parameters and monitoring frequencies shown in Part I.A.2 of the permit. See the permit, Part I.D for details on such submission

2. Special Reports – Special reports are required in the event of an upset, bypass, or other noncompliance. Please refer to Part II.A. of the permit for reporting requirements. As above, submittal of these reports to the US Environmental Protection Agency Region VIII is no longer required.

C. **Signatory and Certification Requirements**

Signatory and certification requirements for reports and submittals are discussed in Part I.D.8. of the permit.

D. Compliance Schedules

Consistent with the requirements of the Clean Water Act and 40 CFR 125.3, compliance schedules are not allowed for effluent limits based on technology based standards established in accordance with federal requirements. On the state level, however, there is no prohibition in state regulations against allowing compliance schedules for technology based standards. Therefore, unless otherwise specified in an effluent limitation guideline (ELG) or other federal regulation, compliance schedules can be allowed for effluent limits based on technology based standards established at a state level, as long as they are established in accordance with Section 402(a)(1)(B) of the Clean Water Act. If the Division determines that a compliance schedule is appropriate in a specific situation, treatment requirements must be specified.

Total Inorganic Nitrogen and Phosphorus

As discussed in Section VI.4.e of this fact sheet, limitations for TIN and phosphorus are state control regulations that are applicable to this facility, and are authorized by Colorado Revised Statute 25-8-205.

Per 61.8(1)(d). A permit cannot be issued which allows a violation of a control regulation unless the waste discharge permit contains effluent limitations and a schedule of compliance specifying treatment requirements as determined by the Division.

Since TIN and phosphorus are being implemented in accordance with a State of Colorado control regulation, a schedule of compliance is allowed and has been added for this facility. As discussed in Regulation 85.5(3)(a), the application of compliance schedules to allow time for modification or installation of treatment facilities, operational startup, new plant optimization, and operator training has been specified in the regulation. Thus, a two year compliance schedule for TIN and a five year compliance schedule for phosphorus have been added to the permit commensurate with all regulations discussed herein and based on discussions with the facility. See Part I.B.6 of the associated permit for specific compliance schedule timelines and requirements.

E. Stormwater

Pursuant to 5 CCR 1002-61.3(2), wastewater treatment facilities with a design flow of 1.0 mgd or more, or that are required to have an approved pretreatment program, are specifically required to obtain stormwater discharge permit coverage or a Stormwater No Exposure Certification, in order to discharge stormwater from their facilities to state waters. The stormwater discharge permit applicable to wasterwater treatment facilities is the CDPS General Permit for Stormwater Discharges Associated with Non-Extractive Industrial Activity.

F. Economic Reasonableness Evaluation

Section 25-8-503(8) of the revised (June 1985) Colorado Water Quality Control Act required the Division to "determine whether or not any or all of the water quality standard based effluent limitations are reasonably related to the economic, environmental, public health and energy impacts to the public and affected persons, and are in furtherance of the policies set forth in sections 25-8-192 and 25-8-104."

The Colorado Discharge Permit System Regulations, Regulation No. 61, further define this requirement under 61.11 and state: "Where economic, environmental, public health and energy impacts to the public and affected persons have been considered in the classifications and standards setting process, permits written to meet the standards may be presumed to have taken into consideration economic factors unless:

a. A new permit is issued where the discharge was not in existence at the time of the classification and standards rulemaking, or

b. In the case of a continuing discharge, additional information or factors have emerged that were not anticipated or considered at the time of the classification and standards rulemaking."

The evaluation for this permit shows that this is a new facility not in existence at the time of water quality standards rulemaking. However, based on available data, the resulting water quality standard-based effluent limitations are determined to be reasonably related to the economic, environmental, public health, and energy impacts to the public and affected persons. If the permittee disagrees with this finding, pursuant to 61.11(b)(ii) of the Colorado Discharge Permit System Regulations, the permittee should submit all pertinent information to the Division during the public notice period.

Jo Anna Beck
4/5/13

VIII. REFERENCES

A. Colorado Department of Public Health and Environment, Water Quality Control Division Files, for Permit Number CO0000005.

B. "Design Criteria Considered in the Review of Wastewater Treatment Facilities", Policy 96-1, Colorado Department of Public Health and Environment, Water Quality Control Commission, April 2007.

C. Basic Standards and Methodologies for Surface Water, Regulation No. 31, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective 1/31/2013.

D. Classifications and Numeric Standards for Arkansas River Basin, Regulation No.32, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective 6/30/2013.

E. Colorado Discharge Permit System Regulations, Regulation No. 61, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective 1/30/2012.

F. Regulations for Effluent Limitations, Regulation No. 62, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective 7/30/2012.

G. Pretreatment Regulations, Regulation No. 63, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective April 01, 2007.

H. Biosolids Regulation, Regulation No. 64, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective March 30, 2010.

I. Section 303(d) List of Water Quality Limited Segments Requiring TMDLs, Regulation No 93, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective 3/30/2012.

J. Colorado's Section 303(d) List of Impaired Waters and Monitoring and Evaluation List, Regulation No 93, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective April 30, 2010.

K. Antidegradation Significance Determination for New or Increased Water Quality Impacts, Procedural Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective December 2001.

L. Memorandum Re: First Update to (Antidegradation) Guidance Version 1.0, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 23, 2002.

M. Determination of the Requirement to Include Water Quality Standards-Based Limits in CDPS Permits Based on Reasonable Potential, Colorado Department of Public Health and Environment, Water Quality Control Division, effective December2002.

N. The Colorado Mixing Zone Implementation Guidance, Colorado Department of Public Health and Environment, Water Quality Control Division, effective April 2002.

O. Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Domestic and Industrial Wastewater Treatment Facilities, Water Quality Control Division Policy WQP-20, May 1, 2007.

P. Implementing Narrative Standards in Discharge Permits for the Protection of Irrigated Crops, Water Quality Control Division Policy WQP-24, March 10, 2008.

Q. Implementing Narrative Standard for Toxicity in Discharge Permits Using Whole Effluent Toxicity (WET) Testing. Colorado Department of Public Health and Environment, Water Quality Control Division Policy Permits-1, September 30, 2010.

R. Policy for Conducting Assessments for Implementation of Temperature Standards in Discharge Permits, Colorado Department of Public Health and Environment, Water Quality Control Division, Policy Number WQP-23, effective July 3, 2008.

S. Policy for Permit Compliance Schedules, Colorado Department Public Health and Environment, Water Quality Control Division Policy Number WQP-30, effective December 2, 2010.

T. Procedural Regulations for Site Applications for Domestic Wastewater Treatment Works, Regulation No. 22, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2009.

U. Regulation Controlling discharges to Storm Sewers, Regulation No. 65, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective May 30, 2008.

V. Water and Wastewater Facility Operator Certification Requirements, Regulation No. 100, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2007.

W. Nutrient Management Control, Regulation No. 85, Colorado Department of Public Health and Environment, Water Quality Control Commission, effective September 30, 2012.

VIII. PUBLIC NOTICE COMMENTS

Comment #1: Please refer to Section II.D., Permitted Feature, at page 1 of the Fact Sheet. It is requested that the location information, latitude and longitude, be revised to reflect the data provided in the application for this permit (application). The location information provided in this item II.D. is exactly the same as the facility location, referred to in the application as the "centroid" or center point of the treatment facility. The permitted feature is the discharge point. The discharge point is not at the same location as the centroid of the facility. The latitude and longitude of the discharge point, 001A, is provided in the application document at paragraph D., page 4.

Response #1: A typographical error was made. The Permitted Feature latitude and longitude has been revised to read "38°37'00" Latitude North and 104°39'46" Longitude West" consistent with Section D of the permit application.

Comment #2: Refer to Section IV.C of the fact sheet. Chemical Usage. This response letter and request for revision confirms that sodium hypochlorite (NaClO) will be stored on this site. It may be utilized by the operators only for activated sludge process control. It is not expected to be present in the effluent due to the chlorine demand of the activated sludge. This was included in the process design report documentation submitted to the Division.
We take no exception to the inclusion of total residual chlorine (TRC) being an effluent limit with a specified maximum concentration.

Response #2: The Division has added the following language to this section of the Fact Sheet:

> The permittee stated that they may utilize one chemical in their treatment process. Sodium hypochlorite will be stored on site, and would be utilized by the operators for activated sludge process control. It is not expected to be present in the effluent due to the chlorine demand of the activated sludge. The MSDS sheets have been reviewed and the following chemicals have been approved for use and are summarized in the following table.
>
> **Table IV-2 – Chemical Additives**
>
> | Chemical Name | Purpose | Constituents of Concern |
> |---|---|---|
> | *Sodium hypochlorite (NaClO)* | *Disinfection* | *Chlorine* |
>
> Chemicals deemed acceptable for use in waters that will or may be discharged to waters of the State are acceptable only when used in accordance with all state and federal regulations, and in strict accordance with the manufacturer's site-specific instructions.

Note that no changes to the permit are warranted as chlorine and whole effluent toxicity (WET) testing have already been incorporated as effluent limits.

Comment #3: Please refer to Section IV.D., Treatment Facility, Facility Modifications and Capacities, located on page 2 of the Fact Sheet/Rationale. Please revise the second paragraph of this section to read as follows:

"…this facility will require a Class B certified operator."

The Fact Sheet/Rationale as now drafted in this section recites a requirement for a Class A certified operator. Revising the paragraph (IV.D.) will make it consistent with the information provided in Section II.B.

Response #3: A typographical error was made. This section has now been revised to read, "…this facility will require a Class B certified operator," in accordance with Section 100.5.2 of the Water and Wastewater Facility Operator Certification Requirements.

Comment #4: Please review the first sentence of Section VI.A.4.a. Are there words or phrases omitted from this sentence? The phrase "Antidegradation- Use Protected" has led us to believe there may be missing text.

Response #4: A typographical error was made. Section VI.A.4.a. of the fact sheet has been revised to read as follows:

a. Antidegradation – The receiving water (COARFO04- an unnamed tributary to Fountain Creek) is designated Use-Protected and so the antidegradation requirements have been met for this segment. However, the Division is including segment COARFO02a (Fountain Creek) in this permit as a receiving stream. Since this segment is designated Reviewable, an antidegradation evaluation is required pursuant to Section 31.8 of The Basic Standards and Methodologies for Surface Water. As set forth in Section V of the PEL, an antidegradation evaluation was conducted for pollutants when water quality impacts occurred and when the impacts were significant. Based on the antidegradation requirements and the reasonable potential analysis discussed below, antidegradation-based average concentrations (ADBACs) may be applied.

*Note the Antidegradation Section of the PEL was mistakenly referred to as Section VII. The Division has corrected this error throughout the text, as the Antidegradation Section of the PEL is Section V.

Comment #5: Please review the second paragraph of Section VI.A.4.d. of the fact sheet Although this may simply be a matter of interpretation of the Mixing Zone Implementation Guidance, we suggest that the last sentence be revised to reflect the ratio of the design flow to the chronic low flow as 1:0, rather than 0:1. The ratio relationship as now drafted would appear to be in conflict with the preceding statement reciting the *Extreme Mixing Ratio* from the regulation indicating exemption from the mixing zone regulation when the ratio of the facility design flow to the chronic low flow is greater than 2:1.

Response #5: A typographical error was made. The Division has revised the mixing zone ratio to correctly read "1:0."

Comment #6: Please refer to the discussion in the third paragraph of Section VI.A.4.e. of the fact sheet, *Regulations for Nutrient Management*. This section indicates that the nutrient management control regulation, WQCC Regulation No. 85, will implement specified effluent limits for dischargers in permitting actions as of July 1, 2013. The third paragraph of this Fact Sheet/Rationale indicates:

"Since this permit action will be in place after that date, total nitrogen and total phosphorous limitations potentially imposed because of this regulation must be considered."

It is understood the permit has gone to notice prior to July 1, 2013. We expect it to be made final by the Division and published in the WQCD newsletter as being issued at June 30, 2013. It is recognized that there is a 30-day appeal period and the effective date may be July 30, 2013. Is this date sequence the basis upon which the statement "…this permit action will be in place after that date…" (July 1, 2013) is made? With the permit having been notice for issuance prior to July 1, 2013, is it proper and in accordance with the regulations that this permit will not have effluent limits or compliance schedules for total phosphorous and total inorganic nitrogen?

Response #6: The Division expects this permit to become effective July 1, 2013. As Regulation No. 85, *Regulations for Nutrient Management*, will come into effect on the effective date of this permit, this regulation is applicable.

Even though the application of nutrient limits for this facility was discussed in the fact sheet, along with directions for ambient reporting to the Environmental Data Unit (EDU), the Division inadvertently omitted TIN and phosphorus from the permit limits table. This omission has been corrected and TIN and phosphorus have been added to the permit limits table along with the associated compliance schedules as discussed in Section VII.D. of this fact sheet, and as discussed with the permittee in a teleconference held May 31st 2013. Note that this facility did not have limitations for nutrients in the previous preliminary effluent limitation (PEL) document, and therefore treatment for nutrients (particularly phosphorus) was not specifically considered in the design of the approved facility.

Comment #7: Please refer to Section VI.A.4.e., *Reasonable Potential Analysis*, appearing on page 6 of the Fact Sheet/Rationale. Please revise the outline format to eliminate the duplication of two sections labeled "e." The *Regulations for Nutrient Management* appearing on page 5 and the *Reasonable Potential Analysis* appearing on page 6 both have the same outline designation.

Response #7: A typographical error was made. The Division has corrected this mistake, and the *Reasonable Potential Analysis* is now referred to as Section VI.A.4.f.

Comment #8: Please refer to the Reasonable Potential Analysis appearing on page 6 of the Fact Sheet/Rationale. We respectfully request that the format of this presentation be modified to eliminate the "boilerplate" discussion and reference to Table VI-1. The entire narrative, seven paragraphs, concludes with a statement that "…therefore no RP analysis will be conducted at this time." The reference to Table VI-1 in paragraph 6 of this section is misleading as there is no Table VI-1 to which to be referred. It appears as if this section could be clarified and simplified to not set forth nonexistent expectations in the first six paragraphs.

Response #8: A typographical error was made. The Division has corrected Section VI.A.4.f., *Reasonable Potential Analysis*, to read, "This is a new facility with no discharge data to compare maximum expected pollutant concentrations (MEPC) to maximum allowed pollutant concentrations (MAPC) for parameters of concern, therefore no quantitative RP analysis will be conducted at this time. Since this is a new facility which was designed to meet the limitations provided in the PEL document, it is anticipated that all limitations will be met, with the exception of TIN and phosphorus as described in comment and response #6.

Comment #9: Please refer to Section VI-B., $CBOD_5$. It is requested by the LFMSDD that the effluent parameter of 5-day carbonaceous biochemical oxygen demand ($CBOD_5$) <u>not</u> be the designated effluent parameter for compliance. It is requested that 5-day total biochemical oxygen demand (BOD_5) be the designated effluent parameter to determine compliance. Similarly, total BOD_5 will be monitored at the influent to the facility to determine compliance with the permitted loading as authorized and approved in the site location approval for this facility.

Response #9: Note that $CBOD_5$ was incorporated into this permitting action as $CBOD_5$ was the preferred effluent parameter checked on the preliminary effluent limitation (PEL) application. However, the WQCD also notes that the PEL was written for BOD_5, and BOD_5 is the typical effluent limitation per Regulation No. 62. Thus, $CBOD_5$ has been changed to BOD_5 throughout the permit and the fact sheet.

Comment #10: Please refer to Section VI-C., third paragraph, bottom of page 8. This paragraph captioned "*Total Mercury*" addresses the monitoring frequency for analyses of total mercury at low level detection methods in the treatment plant effluent. This section specifies sampling, analysis and reporting to be accomplished quarterly. The permit document, Section I.A.2., specifies total mercury to be sampled monthly. It is respectfully requested that the permit conditions table, page 5, be revised to conform to the Fact Sheet/Rationale which specifies quarterly sampling, analysis and reporting.

Response #10: A typographical error was made. The Division has revised Section I.A.2. in the Permit to require a quarterly mercury sample.

Comment #11: Please refer to Section VI-C., fifth paragraph which addresses effluent cyanide. It is understood that the Water Quality Control Division (WQCD) desires that the permitee analyze effluent water quality for weak acid dissociable (WAD) cyanide as the measure of compliance with the effluent limit for the free cyanide water quality standard. It is agreed that the WQCD practical quantitation limit (PQL) for WAD cyanide is 10 micrograms per liter (µg/l). It is understood that the PQL for WAD cyanide is approximately 10 times greater than the antidegradation based average concentration (ADBAC) for cyanide. The table in the permit, page 5, reflects the value of total cyanide. It is respectfully requested that the permit, together with the DMR reports, specify cyanide is to be sampled, analyzed and reported as WAD, not total.

Refer to other comments in this letter regarding the manner of calculation and reporting of the ADBAC 2-year rolling averages for constituents whose PQLs are greater than the effluent limitation maximum concentration.

Response #11: This is correct. As discussed in Section VI.C of the fact sheet, the appropriate speciation and required analytical method for cyanide is Weak Acid Dissociable (WAD) Cyanide. This change has been made in Section I.A.2 of the Permit.

If the permit contains a numeric effluent limit for a parameter, the analytical method and PQL selected for all monitoring conducted in accordance with this permit for that parameter shall be the one that can measure at or below the numeric effluent limit. If all specified analytical methods and corresponding PQLs are greater than the numeric effluent limit, then the analytical method with the lowest PQL shall be used. Please see part I.D.5 of the permit.

When the analytical method which complies with the above requirements has a PQL greater than the permit limit, and the permittee's analytical result is less than the PQL (achieved by the lab), the permittee shall report "BDL" on the DMR. Such reports will not be considered as violations of the permit limit, as long as the PQL obtained is lower or equal to the PQL in the table below. In the calculation of average concentrations (e.g., 7-day average, 30-day average, 2-year average), any individual analytical result that is less than the PQL shall be considered to be zero for calculation purposes. For further guidance on DMR compliance reporting, please go to www.coloradowaterpermits.com, Compliance Assistance for Permitted Discharge, section.

Comment #12: Refer to Section VII.A regarding monitoring frequency for treatment plant effluent. It is understood that the HDTRWRF is not eligible for reduced monitoring frequencies in accordance with WQCD Policy No. WQP-20 of May 1, 2007. As a new facility, it is not eligible, in accordance with this policy, until completion of one full permit term (5 years). Should this permit be administratively extended beyond a period of 5 years from the original effective date, the LFMSDD may request permit modifications for reduced monitoring when it demonstrates compliance with WQCD Policy No. WQP-20, i.e., long-term characterization (LTC) of effluent quality parameters.

Response #12: Correct, as a new facility, the HDTRWRF is not eligible for reduced monitoring frequencies. A reduction in the sampling frequency, and an associated reasonable potential (RP) analysis may only be performed after 1 permit term (5 years) for new facilities commensurate with WQ-Policy 20, Baseline Monitoring Frequency, Sample Type, and Reduced Monitoring Frequency Policy for Domestic and Industrial Wastewater Treatment Facilities. The reduction in sampling frequency will be conducted by the Division during the next permit renewal.

Comment #13: Please refer to the second paragraph of Section VII.A. which addresses quarterly monitoring frequency for mercury. As previously discussed in this letter, please revise the monitoring frequency in the permit, page 5, Section I.A.2., to designate quarterly monitoring for total mercury.

Response #13: Please refer to Response #10.

Comment #14: Please refer to Section VII.C. regarding signatory and certification requirements. Under separate cover, the LFMSDD is submitting the WQCD form for change in contact information for this permit. It is requested that those changed contacts be reflected in the final drafting of the permit. Should the Division have any questions regarding that matter, please contact us at your convenience.

Response #14: The Division notes the forthcoming change of contact form. Since the permit contact is not listed in the

permit document, no permitting action, only an administrative action is needed to modify permit contacts. Thus, the change in contacts will be completed upon receipt of the appropriate form and original signatures. The permittee will be notified when the change of contacts has been completed.

Comment #15: Please refer to page 1 (of the Permit) and the discussion of the point of discharge or the center point of the HDTRWRF facility. The discharge permit, page 1, cites the location of the HDTRWRF authorized discharge to be the location presented in the application for the permit at the center of the facility. If the permit document at this location, page 1, is intended to recite the actual location of the point of discharge, revision is required. Refer to the following comment.

Response #15: The location on page 1 of the Permit describes the facility location and does not require revision.

Comment #16: Refer to the second paragraph of Section I.A.1 (of the Permit). This paragraph specifically identifies a location by latitude and longitude of the permitted feature being the point of discharge and the point of compliance to which conditions of the permit apply. The location recited on page 3 of the draft permit is not the point of discharge. Please refer to the application document for supporting information. Outfall 001A should be located at 38°37'00" Latitude North and 104°39'46" Longitude West.

Response #16: A typographical error was made. The Division has revised the second paragraph of Section I.A.1 of the permit to read, "Outfall 001A at 38°37'00" Latitude North and 104°39'46" Longitude West, following disinfection and prior to entering the receiving stream."

Comment #17: As discussed in item #9 above, please revise the third paragraph of Section I.A.2., page 3 in the permit document. That revision should be reflective of total 5-day biochemical oxygen demand (BOD_5) rather than $CBOD_5$. The subsequent citations in this permit as to design organic capacity have all been recited in units of BOD_5. The District concurs with that approach.

Reponse #17: Effluent and Influent BOD_5 limitations have replaced $CBOD_5$ in the permit. Changes, including the correct ICIS codes, have been made in Section I.A.2. and I.A.3 of the Permit.

Comment #18: Please refer to the table of effluent limitations and monitoring requirements printed on pages 4 and 5 of the draft permit documents. Please give attention to the following items.

a. Please revise the frequency of monitoring of the effluent flow. The draft document presently says 2 days per week. In keeping with WQCD Policy No. WQP-20, Appendix A, the type of sample for influent and effluent flow measurement is continuous, not intermittent as 2 days per week.

b. As a point of clarification, the monitoring frequency for oil and grease (ICIS code 03582) is contingent. That contingent status is based on the presence or absence of visual oil and grease sheen on the discharge from the faciltiy. Should the operator observe a visible sheen, then the monitoring requirements for oil and grease (ICIS code 03582) will apply utilizing a grab sample with a daily maximum concentration of 10 milligrams per liter (mg/l).

c. Please provide GMS, Inc. and the District with a rationale as to the sample type specified for trivalent and hexavalent chromium. It is recited in the draft permit as being a grab sample. It does not appear that is in keeping with WQCD Policy No. WQP-20 Appendix A. We recognize that there may be separate sample preservation and analysis techniques; however, it does not appear that the sample type is in keeping with the WQCD policy. We respectfully request the same input relative to total cyanide which, based on the Fact Sheet/Rationale, will be analyzed as weak acid dissociable (WAD) cyanide, not necessarily the the total. As previously discussed in this letter, it is requested that the table of effluent limits recite the WAD analysis for cyanide in the treatment plant.

d. It is recognized that the antidegradation based average concentrations (ADBACs) are recited as a 2-year rolling average. It is understood that the 2-year rolling average concentrations <u>will not</u> be reported on the discharge monitoring reports (DMRs) for the first 12 months of the term of the term of this permit. Following the 13^{th} month, the 2-year rolling average of the first month of the first year and the first month of the second year will be

averaged and reported. Subsequent months' reporting will occur in a similar manner. We trust that this is in keeping with the definition No. 31 recited on page 16 of the draft permit. Values used in the average calculations shall be in keeping with the provisions of Section I.D.5., paragraphs captioned "Calculating Averages".

Response #18:

a. A typographical error was made. The monitoring frequency for effluent flow was revised to read "Continuous" in Section I.A.2. on page 4 of the Permit.

b. Yes, the limitation only applies if a visible sheen is observed and is the correct interpretation of 'contingent.'

c. The WQCD acknowledges that the sample type for this type of mechanical facility is 'composite'. This has been modified in the permit. Please refer to the Response for #11 in regard to WAD Cyanide.

d. Yes, the 2-year rolling average is calculated in the method as described in comment #18.d.

Comment #19: Please revise the parameter sampling at permitted feature 300I (influent) in the table at the bottom of page 5, ICIS code 80082G, to be total 5-day biochemical oxygen demand, BOD_5 with a revised ICIS code. This is a change from carbonaceous BOD_5 that is shown on the draft permit and will be consistent with the fottnote printed at the top of page 6 following this table which recited organic capacity in terms of total BOD_5, not carbonaceous BOD_5.

Response #19: Please refer to response #17.

Comment #20: Please remove monitoring and reporting requirement for Salinity Parameters shown at Section I.A.4., page 6. We trust that this section may be a drafting discrepancy as the issue of monitoring and reporting Salinity Parameters has not been presented to the District previous to this draft permit. The recitations as to referenced sections in the permit are erroneous and non-applicable and the monitoring parameters and frequencies referenced in the text are nonexisitent.

Response #20: A typographical error was made. Since the effluent discharge is to the Arkansas River Basin and not to the Colorado River Basin, no salinity monitoring is required.

Comment #21: As a point of clarification, the terminology provided in the second paragraph of Section I.B.1. (of the Permit) regarding the permitee entering into service agreements with any municipalities that discharge into the treatment facility includes special districts. It is understood the reference to "municipalities" includes special districts as provided by Colorado Revised Statues, Title 32, as well as statutory and home tule towns and cities and in the context of this permit, other contracting entities which are neither special districts, or statutory or home rule towns or cities.

Response #21: Yes, this correct.

Comment #22: Please refer to Section I.D.6.b. (of the Permit). As a matter of information, we suggest that the Division examine the text in this paragraph and the reference to"…all original strip chart recordings for continuous monitoring instrumentation…" There are very few new or continuing operating facilities that use strip chart recordings. The majority of facilities utilize an electronic recordation with electronic storage, retrieval and paper report presentation. It may be valid at some point in the future that the reference to strip chart recordings be deleted. In the case of HDTRWRF, there will be no strip chart recordings from any continuous monitoring instrumentation. If this condition creates potential conflict in this discharge permit, please revise this paragraph accordingly.

Response #22: This is noted, however, the language listed above is template language used for individual wastewater permits. The Division, at this time, finds it unnecessary to revise the language of the referenced section as some older facilities still retain strip chart readings.

Comment #23: Please insert a new second and third sentence in the second paragraph of Section I.D.7 (of the Permit) to read as follows:

> *"In the event of a malfunction of the influent or effluent flow metering facilities, a single flow measurement device may be used for recording and reporting of both influent and effluent flows since the effluent flow wil not be significantly different from influent flow and vice versa. The permitee shall proceed to rectify the malfunction as soon as possible so as to return to the specified flow metering and recording requirement for this facility, both influent and effluent flow measurement."*

The last sentence in this paragraph regarding flow metering from lagoon treatment facilities may remain as presently drafted.

Response #23: The language currently in the draft permit is template language used for individual wastewater permits. The suggested provision should not be necessary for a correctly operated new facility which is expected to have system redundancy, and thus has not been added to the permit.

Comment #24: It is respectfully requested that the Division examine the text located in Section II.A.3.b.iv) (of the Permit). It would appear that this text could be clarified to better reflect the intent of this permit condition. We respectfully request, as a minimum, the second sentence of this section be rewritten to add clarification to the permitee's responsibilites. That second sentence presently reads as follows:

> *"This includes any toxic pollutant or hazardous substance or any pollutant specifically identified as the method to control any toxic pollutant or hazardous substance."*

We suggest the following rewrite of this section.

> *"Daily maximum violations of any of the maximum pollutant concentrations of those constituents specified in Part III of this permit and listed in Part I.A. This includes any toxic pollutant or hazardous substance listed in Part III. of this permit with any limitation specified in Part I.A. intended to control the discharge of such toxic pollutant or hazardous substance."*

Response #24: The language listed above is commonly used template language used for individual wastewater permits. The Division finds it unnecessary to revise the language of the referenced section.

Jo Anna Beck
5/28/2013